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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/972,855 | 10/10/2001 | Yoshiaki Sugizaki | 04329.2686 | 5564 |

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EXAMINER

IM, JUNGHWA M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2811

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/972,855

Applicant(s)

SUGIZAKI, YOSHIAKI

Examiner

Junghwa M. Im

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 11, 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gurtler (US 5424245) in view of Bertin et al. (US 5977640), hereinafter Bertin and Matushima (US 6384485).

Regarding claim 25, Fig. 1 of Gurtler shows a semiconductor device comprising:
a first semiconductor chip (21) where a semiconductor element (22, 24, 32, 34) is formed;

a plurality of first connecting terminals (20) arranged on a semiconductor element formation surface side in the first semiconductor chip and connected electrically to the semiconductor element, the first connecting terminal having substantially the same configuration;

a plurality of conductive members (28) buried in a plurality of through holes that go through the first semiconductor chip;

a plurality of second connecting terminals (36) on a back surface side of the semiconductor element formation surface side in the first semiconductor chip, and connected electrically to the semiconductor element via the conductive member,

a second semiconductor chip (10) stacked on the first semiconductor chip (21);
a plurality of the third connecting terminals (18) on a semiconductor element formation surface side (14, 16) in the second semiconductor chip,
wherein one of the first connecting terminals and the second connecting terminals of the first semiconductor chip is arranged at a position facing the third connecting terminals of the second semiconductor chip,
the first semiconductor chip and the second semiconductor chip are electrically connected with each other through the facing connecting terminals, and
some (48, 50) of the first connecting terminals or the second connecting terminals are distributed and arranged substantially on an entire surface of the semiconductor chip to receive a power source supply potential or ground potential.

Gurtler shows the most aspect of the instant invention except having a larger second semiconductor chip and a heat radiating plate thereon. Fig. 7 of Bertin shows a multi-chip packaging device wherein the second semiconductor chip (30) is larger than the first semiconductor chip (40) and a heat radiating plate (74) thereon.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Bertin to the device of Gurtler in order to have the second semiconductor chip larger than the first semiconductor chip for a compact package and a heat radiating plate thereon for the heat dissipation of the package.

The combined teachings of Gurtler and Bertin fail to show that the heat radiating plate is affixed by a radiating resin. Fig. 1 of Matsushima shows a heat radiating plate (107) is attached by radiating resin (108; col. 1, lines 26-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Matsushima to the device of Gurtler and Bertin in order to have the heat radiating plate attached by radiating resin to improve the efficiency of the heat dissipation.

Response to Arguments

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

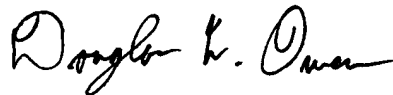
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junghwa M. Im whose telephone number is (571) 272-1655. The examiner can normally be reached on MON.-FRI. 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (571) 272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jmi
10/27/2006

 10/30/06

DOUGLAS W. OWENS
PRIMARY EXAMINER